Application No. 10/525,897

**In the claims**

1. (Canceled).

2. (Currently amended) The device as claimed in claim **[[1]]** **15** further comprising a filter circuit connected between the rectifier circuit and the switching circuit.

3. (Currently amended) **[[The]]** **A** device ~~**as claimed in claim 2**~~ **for converting an AC voltage from a main electricity supply to a DC voltage of a predetermined level and waveform comprising:**

**a rectifier circuit to connect to the main electricity supply;**

**a switching circuit connected to the rectifier circuit and through which current flows;**

**a main transformer through which current flows connected to the switching circuit and having a secondary winding;**

**an auxiliary transformer connected to the switching circuit that has a secondary winding with connecting terminals coupled to the secondary winding of the main transformer such that the current through the switching circuit and the main transformer is limited to a predetermined value; and**

**a filter circuit connected between the rectifier circuit and the switching circuit,** wherein the filter circuit comprises a number of diodes.

Claims 4 to 12 (Cancelled).

13. (Previously presented) The device as claimed in claim 2, wherein the filter circuit comprises at least one capacitor and one self-induction element.

14. (Previously presented) The device as claimed in claim 3, wherein the filter circuit further comprises at least one capacitor and one self-induction element.

15. (Currently amended) **[[The]]** **A** device ~~**as claimed in claim 1**~~ **for converting an AC voltage from a main electricity supply to a DC voltage of a predetermined level and**



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**waveform comprising:**

**a rectifier circuit to connect to the main electricity supply;**

**a switching circuit connected to the rectifier circuit and through which current flows;**

**a main transformer through which current flows connected to the switching circuit and having a secondary winding; and**

**an auxiliary transformer connected to the switching circuit that has a secondary winding with connecting terminals coupled to the secondary winding of the main transformer such that the current through the switching circuit and the main transformer is limited to a predetermined value**, wherein the switching circuit comprises a power transistor having a collector and an emitter and being in common-base configuration.

16. (Canceled).

17. (Previously presented) The device as claimed in claim 3, wherein the switching circuit comprises a power transistor having a collector and an emitter and being in common-base configuration.

18. (Canceled).

19. (Previously presented) The device as claimed in claim 14, wherein the switching circuit comprises a power transistor having a base, a collector and an emitter and being in common-base configuration.

20. (Previously presented) The device as claimed in claim 15, wherein the switching circuit further comprises a DIAC.

21. (Canceled).

22. (Previously presented) The device as claimed in claim 17, wherein the switching circuit further comprises a DIAC.

23. (Canceled).



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24. (Previously presented) The device as claimed in claim 19, wherein the switching circuit further comprises a DIAC.

25. (Previously presented) The device as claimed in claim 15, wherein the auxiliary transformer is connected to the emitter of the power transistor.

26. (Canceled).

27. (Previously presented) The device as claimed in claim 17, wherein the auxiliary transformer is connected to the emitter of the power transistor.

28. (Canceled).

29. (Previously presented) The device as claimed in claim 19, wherein the auxiliary transformer is connected to the emitter of the power transistor.

30. (Previously presented) The device as claimed in claim 20, wherein the auxiliary transformer is connected to the emitter of the power transistor.

31. (Canceled).

32. (Previously presented) The device as claimed in claim 22, wherein the auxiliary transformer is connected to the emitter of the power transistor.

33. (Canceled).

34. (Previously presented) The device as claimed in claim 24, wherein the auxiliary transformer is connected to the or emitter of the power transistor.

35. (Currently amended) **[[The]]** **A** device ~~**as claimed in claim 1**~~ **for converting an AC voltage from a main electricity supply to a DC voltage of a predetermined level and waveform comprising:**

**a rectifier circuit to connect to the main electricity supply;**

**a switching circuit connected to the rectifier circuit and through which current flows;**

**a main transformer through which current flows connected to the switching circuit**



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**and having a secondary winding; and**

**an auxiliary transformer connected to the switching circuit that has a secondary winding with connecting terminals coupled to the secondary winding of the main transformer such that the current through the switching circuit and the main transformer is limited to a predetermined value**, wherein the auxiliary transformer further has a diode connected between the connecting terminals of the secondary windings of the auxiliary transformer.

36. (Previously presented) The device as claimed in claim 30, wherein the auxiliary transformer further has a diode connected between the connecting terminals of the secondary winding of the auxiliary transformer.

37. (Canceled).

38. (Previously presented) The device as claimed in claim 32, wherein the auxiliary transformer further has a diode connected between the connecting terminals of the secondary windings of the auxiliary transformer.

39. (Canceled).

40. (Previously presented) The device as claimed in claim 34, wherein the auxiliary transformer further has a diode connected between the connecting terminals of the secondary windings of the auxiliary transformer.

41. (Previously presented) The device as claimed in claim 36, wherein the switching circuit further comprises a resistor connected between the base and the collector or emitter of the power transistor.

42. (Canceled).

43. (Previously presented) The device as claimed in claim 38, wherein the switching circuit further comprises a resistor connected between the base and the collector or emitter of the power



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transistor.

44. (Canceled).

45. (Previously presented) The device as claimed in claim 40, wherein the switching circuit further comprises a resistor connected between the base and the collector or emitter of the power transistor.

46. (Previously presented) The device as claimed in claim 41, wherein the switching circuit further comprises a resistor with a temperature-dependent value ~~is~~ connected between the base of the power transistor and the collector or emitter.

47. (Canceled).

48. (Previously presented) The device as claimed in claim 43, wherein the switching circuit further comprises a resistor with a temperature-dependent value connected between the base of the power transistor and the collector or emitter.

49. (Canceled).

50. (Previously presented) The device as claimed in claim 45, wherein the switching circuit further comprises a resistor with a temperature-dependent value connected between the base of the power transistor and the collector or emitter.



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